



Aviation Investigation Final Report

Location:	LAPRA, Texas	Accident Number:	FTW88LA008
Date & Time:	October 20, 1987, 10:15 Local	Registration:	N8403E
Aircraft:	BELL 47G-2	Aircraft Damage:	Substantial
Defining Event:		Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

UPON ENTERING A BANK APPROX. 80 TO 100 FT. OFF THE GROUND, THE AIRCRAFT EXPERIENCED A POWER LOSS WITH VIBRATION. DURING AUTOROTATION THE AIRCRAFT CONTACTED A TREE CAUSING SUBSTANTIAL DAMAGE. EXAMINATION OF THE WRECKAGE FOUND THE TRANSMISSION CLUTCH ASSEMBLY SHOES WERE WORN AND SEPARATED. THE CLUTCH DRUM WAS FOUND TO BE EXTENSIVELY WORN AND SCORED.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: MANEUVERING

Findings

1. (C) ROTOR DRIVE SYSTEM,CLUTCH ASSEMBLY - WORN
 2. (C) ROTOR DRIVE SYSTEM,CLUTCH ASSEMBLY - DETERIORATED
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Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Findings

3. AUTOROTATION - PERFORMED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

4. (F) OBJECT - TREE(S)

Factual Information

Pilot Information

Certificate:	Commercial	Age:	30, Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	February 18, 1987
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	380 hours (Total, all aircraft), 55 hours (Total, this make and model), 265 hours (Pilot In Command, all aircraft), 80 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELL	Registration:	N8403E
Model/Series:	47G-2 47G-2	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	2257
Landing Gear Type:	Skid	Seats:	3
Date/Type of Last Inspection:	October 13, 1987 100 hour	Certified Max Gross Wt.:	2450 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	8497 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Not installed	Engine Model/Series:	V0-435-F
Registered Owner:	HOLT HELICOPTERS INC.	Rated Power:	200 Horsepower
Operator:	HOLT HELICOPTERS INC.	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 2800 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 12000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	17 knots / 20 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	40°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	19°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	UVALDE , TX	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	10:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	Grass/turf
Airport Elevation:		Runway Surface Condition:	Dry
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	28.940504,-99.839225(est)

Administrative Information

Investigator In Charge (IIC):	Wilson, Ralph
Additional Participating Persons:	FRED MAUPIN; SAN ANTONIO , TX
Original Publish Date:	June 16, 1989
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=22584

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).